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Prof. Dr. Stefan Ihde, Prof. Dr. Olga Šipić,
Prof. Dr. Antonina Ihde,
Dr. Muhammad Mansoor Majeed

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Long-Term Outcomes of Immediately Loaded Cortical and Basal Implants in Full-Arch Rehabilitation: A Prospective Practice-Based Study

Authors

Prof. Dr. Stefan Ihde [1,2]
Prof. Dr. Olga Šipić [1,2]
Prof. Dr. Antonina Ihde [1,2]
Dr. Muhammad Mansoor Majeed [1,3]

[1] Evidence and Research Department, International Implant Foundation IF®, Munich, Germany

[2] Visiting Professor, Department for Prosthetics, Jaipur Dental College, Maharaj Vinayak Global University, Jaipur, Rajasthan, India

[3] Associate Professor and Head, Department of Oral Biology, Quetta College of Dentistry, Quetta, Pakistan

Contact:
Prof. Dr. Stefan Ihde
prof@ihde.com

Prof. Dr. Olga Šipić (corresponding author)
oljasipic@gmail.com

Prof. Dr. Antonina Ihde
antonina.ihde@gmail.com

Dr. Muhammad Mansoor Majeed
mmansoormajeed@gmail.com

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Abstract

This study aimed to evaluate the long-term performance of immediately loaded cortical and basal implants in full-arch rehabilitations. It focused on evaluating the outcomes of the Bone-Implant-Prosthetic-System (BIPS®), as well as any complications and interventions encountered in everyday clinical practice.

This was a prospective observational study, carried out in private clinics in Serbia and Montenegro from 2011 to 2023. All patients included in the study received standardized treatment in accordance with the immediate functional loading consensus (1st to 9th IF® Consensus Documents). No post-treatment exclusions were applied. The mean follow-up duration was 6.8 years, with success defined as the absence of mobility, pain, suppuration, or the need for corrections. Descriptive statistics were analyzed using SPSS.

In this cohort, 915 patients received a total of 17,080 Strategic Implant® (10,095 maxillary and 6,985 mandibular) and underwent the immediate extraction of 13,228 teeth. The overall success rate was 94.6% (1,589 / 1680). Corrections were considered necessary in 4.3% (72) of the cases at the end of the observation period but had not yet been carried out, while true failures, defined as removal of BIPS®, occurred in 1.13% (19) of the cases; complications were predominantly prosthetic.

Cortical and basal implants demonstrate high functional stability in routine care, exceeding conventional survival metrics by prioritizing system-level outcomes across atrophic, compromised, and regular cases. Periimplantitis was not observed around any of the implants during the observation period. Further comparative studies are warranted to validate these findings.

Keywords: BIPS®; jaw implant; immediate functional loading; full jaw rehabilitation; full mouth rehabilitation, Strategic Implant®, Corticobasal® implant

Introduction

The loss of teeth poses a significant challenge to public health worldwide, affecting individuals' quality of life, nutritional health, and psychological well-being. The Global Burden of Disease Study 2021 indicates that more than 353 million people worldwide suffer from edentulism, with an age-standardized prevalence of 4.11%.

Forecasts indicate that this number could surpass 660 million by 2050. Moreover, in individuals aged 60 and above, the worldwide prevalence of oral illnesses, including edentulism, was documented to have reached 675.8 million cases in 2021[1].

Since the introduction of osseointegration into clinical practice, endosseous dental implant therapy has emerged as a fundamental aspect of modern oral rehabilitation for both partially and fully edentulous patients. According to substantial clinical trials and systematic reviews, high survival rates for endosseous dental implants, often exceeding 90–96% after five to ten years of functional use[2,3]. The concept, based on direct structural and functional contact between bone and implant surfaces, has enabled predictable prosthetic reconstruction and restoration of oral function. Consequently, osseointegration-based implant therapy is currently regarded as the standard therapeutic approach for fixed oral rehabilitation in appropriately selected patients. Rough implant surface characteristics are planned to increase osseointegration; however, they are also associated with an increased susceptibility to periimplantitis[4]. Periimplantitis may compromise long-term biological stability, regardless of favorable survival statistics[4,5]. Reported prevalence rates of periimplantitis vary widely across studies, underscoring the ongoing uncertainty regarding long-term health outcomes beyond mere implant retention.

Moreover, in routine clinical practice, treatment strategies often aim to preserve remaining natural teeth, leading to implant placement in limited edentulous segments rather than to comprehensive rehabilitation. However, when malpositioned, functionally compromised, or structurally unfavorable teeth are retained, biomechanical and prosthetic limitations may compromise long-term treatment stability and increase the need for subsequent corrective interventions[6,7]. These considerations have contributed to continued exploration of alternative rehabilitation concepts that prioritize functional reconstruction and biomechanical optimization alongside implant survival as primary treatment objectives. Implant survival alone does not necessarily reflect long-term clinical success, functional stability, or patient-centered outcomes[8].

Consequently, increasing attention has been directed towards distinguishing implant survival from true treatment success, which includes biological stability, prosthetic integrity, comfort, absence of infection and pain, and long-term stability. There is significant heterogeneity in the definitions of implant failure, survival, and success, hindering comparability across studies[8]. Furthermore, patient-reported outcomes are often isolated from other outcomes, underscoring the need for standardized core outcome variables.

Guo-Hao Lin (2016) reported outcomes from a retrospective university-based study involving 550 conventional two-stage implants with a mean follow-up of 6.25 ± 3.61 years. Only 22.36% of the implants were classified as healthy[9]. Although the implant loss rate was low (4.55%), only 71.82% of the surviving implants met the defined success criteria, and 22.63% of these implants exhibited progressive marginal bone loss. Notably, 84.6% of failures occurred within the first five years, suggesting that short-term follow-up may substantially underestimate the incidence of biological complications[9]. This therapy clearly does not reflect the expectations of the patients.

Although implant therapy has been extensively investigated, important limitations remain in the available evidence base. A significant number of published studies on implants are retrospective in nature, conducted within academic institutions, involve carefully selected patient groups, and focus on up to mean five to ten years of post-loading follow-up[10,11]. Data from routine clinical practice over extended periods are limited, especially regarding immediate loading protocols used in diverse patient groups. Consequently, the external validity and practical relevance of many implant studies are often constrained. This suggests that widely cited survival statistics might underreport real-world complications, underscoring the necessity for independent, long-term, practice-based evaluations of the performance of the implant chosen by the treatment providers.

As the real amount of patient selection is typically not mentioned nor explained in studies on conventional implants, such studies are hard to interpret, and the real-life relevance can only be estimated. Many practitioners and researchers take studies that do not elaborate in the ITT principle for real.

From a patient-centered perspective, progressive tooth loss and deterioration are associated with substantial functional limitations and psychological distress, resulting in documented adverse effects on oral health-related quality of life and self-esteem[12]. Conventional osseointegration implant protocols indeed involve significant challenges including staged surgeries, extended healing periods, and complex bone preservation requirements that can delay rehabilitation and aesthetic outcomes[13]. Additionally, the risk of developing periimplantitis around these implants is imminent[14]. Although this concept has demonstrated high long-term survival rates, it relies heavily on adequate bone volume and quality, particularly in cancellous bone[3,14].

Moreover, conventional protocols frequently necessitate bone augmentation procedures, staged surgery, and delayed loading to achieve predictable outcomes[15]. In clinical scenarios characterized by advanced alveolar resorption or compromised dentition, such limitations may reduce treatment acceptance or delay timely intervention[15,16].

Consequently, methodologies that enable immediate functional rehabilitation while minimizing surgical complexity have gained increasing attention within the clinical community[17]. In this context, alternative implant concepts that emphasize cortical anchorage and immediate functional rehabilitation, such as Corticobasal® or Strategic Implant® approaches, have emerged to address these patient-centered limitations[18,19].

While for decades (after the 1990s) the time to loading of dental implants was connected to the implant surfaces and the idea of “osseointegration”, the field of traumatology had discovered the large potential of the cortical bone already in the 1970s: The AO Foundation (Davos / Switzerland) had served as a knowledge-base for the development of all kinds of details regarding the use of cortical support and cortical anchorage. The enormous developments of the AO were made independently of the dental implant field, where treatments that use cortical stability and could be performed in immediate functional loading protocols were kept from patients by applying solely the method of osseointegration.

In this article, we report on implant cases that relied entirely on cortical engagement, which provides significant primary stability even in compromised alveolar conditions[20]. This biomechanically-oriented concept, named "osseofixation", was developed in the 1970s in traumatology. It facilitates prompt functional loading and minimizes or eliminates the need for bone augmentation interventions. In contrast to traditional osseointegrated implants, which rely primarily on the healing process at the interface between the implant and bone, osseofixated implants achieve stability through mechanical anchorage in robust cortical bone, thereby providing a unique biological and functional framework[21]. Following placement, implant regions that are not initially in direct contact with bone may undergo secondary biological adaptation, referred to as "dual integration." However, early (and sufficient) clinical stability is achieved primarily through fixation within the second or third layers of cortical bone[20]. Achieving osseointegration is not the primary aim of this treatment.

Despite the increasing clinical application of cortical anchorage implant concepts, there is a lack of long-term prospective data obtained under routine clinical conditions. Many existing studies are retrospective, involve selected patient populations, or primarily focus on implant survival rather than the functional performance of the reconstructed system. Therefore, there is a pressing need for additional practice-based investigations that evaluate biological, prosthetic, and functional outcomes over extended follow-up periods to enhance understanding of real-world treatment efficacy.

This prospective observational study aimed to evaluate the long-term clinical performance of immediately loaded osseofixated implants. Secondary objectives included the analysis of biological and prosthetic complications, corrective interventions, and functional outcomes during extended follow-up in a routine clinical setting.

Materials and Methods

Study Design, Setting, and Participants

This prospective, practice-based observational cohort study was conducted in two private dental clinics specializing in implant rehabilitation (Simpladent® Clinic in Belgrade / Serbia, and Simpladent®

Clinic in the Budva region / Montenegro). Both clinics provide routine implant-supported oral rehabilitation in a real-world clinical setting. The study followed STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) recommendations for observational research.

In this study, all adult patients undergoing implant-supported full-arch rehabilitation during the study period (2011 to 2023) were eligible for inclusion. All consecutive eligible patients presenting for treatment were included.

Inclusion Criteria

- Age ≥ 18 years
- Indication for implant-supported rehabilitation
- Ability to provide informed consent
- Therapy with Strategic Implant®, done under the rules of immediate functional loading

Exclusion Criteria

No additional exclusion criteria beyond routine clinical contraindications were applied, and all consecutive eligible patients were enrolled in the study.

No post-treatment exclusions were applied, and all consecutively treated patients were included in outcome analyses to minimize selection bias. Treatment protocols were standardized across clinicians. Treatment procedures adhered to standardized clinical protocols based on published consensus recommendations for immediate functional loading. Outcome assessment followed predefined criteria[22].

Ethical Consideration

All patients provided written informed consent for both treatment and the anonymized use of their clinical data for scientific evaluation. The study analyzed data obtained from routine clinical care without implementing any experimental interventions. In accordance with applicable regulations for observational studies using anonymized clinical data, formal ethical approval was waived. The study adhered to the principles of the Declaration of Helsinki and complied with relevant local regulatory requirements.

Treatment Protocol

All patients were treated with the Strategic Implant® devices (BECES® / BECES® EX) (Manufacturer: Simpladent® GmbH, Dorfplatz 11, 8737 Gommiswald, Switzerland), the BCS® / TPG® uno implants (Manufacturer: Dr. Ihde Dental AG, Dorfplatz 11, 8737 Gommiswald, Switzerland) designed to achieve primary stability through anchorage in the second or third cortical bone layer (except in areas where IF® Methods 2a, 3, and 14 were used). Implant placement was performed under local anesthesia by clinicians who were authorized by the manufacturer, experienced in implant rehabilitation, and trained in the applied treatment protocol.

Implant length and diameter were selected according to anatomical conditions and available cortical bone support. Immediate functional loading was performed in all cases, i.e., within 72 hours after the end of surgery, using fixed (cemented) prosthetic reconstructions. Teeth and previously placed implants were removed when clinically indicated to allow full-arch rehabilitation and establishment of a stable immediately loaded prosthetic framework.

No bone augmentation procedures, sinus lift surgeries, or staged surgical approaches were employed. Primary implant stability was achieved mechanically through cortical engagement.

During a first period of seven years BCS® implants were used in full-arch rehabilitations, whereas since 2018, Strategic Implant® were used. Both brands are identical and produced under identical factory conditions in Switzerland. Using the Bone-Implant-Prosthetic-System (BIPS®) as the outcome measure reflects the principle of osseofixation.

Single-piece, polished Strategic Implant® systems were used in two design variants (BECES® and BECES® EX, and BCS® and TPG® uno respectively): The BECES® EX (TPG® uno respectively) design was preferentially applied in anatomically suitable regions requiring compressive engagement of spongeous bone, including posterior maxillary and anterior maxillary areas, whereas BECES® implants were used for cortical and basal anchorage in other regions of the jaws. Implant type, length, diameter, and anchorage location were selected according to anatomical conditions and established treatment principles.

The ratio between cortical and basal implants (e.g. BECES®) and multi-threaded compression screws (as chosen by the surgeon), was 77.5% to 22.5%.
All surgical treatments and some of the control x-rays were performed based on a panoramic picture. CBCT imaging was performed when additional anatomical assessment was clinically indicated. If necessary, the correction of an implant position was done during the tooth try-in appointment.

Prosthetic Protocol

Moreover, fixed prosthetic superstructures were fabricated and delivered in accordance with immediate functional loading principles. Occlusion was adjusted to minimize lateral forces. Masticatory guidance was optimized to distribute forces evenly across the prosthetic framework. Cantilevers were fully avoided. Patients received standardized oral hygiene instructions (rinsing with antiseptic iodine-based oral rinse (Betadine® 5%) once per week and cleaning with interdental brushes of various diameters daily). Control appointments were agreed after three months, then every twelve months thereafter.

Variables and Outcome Measures

Clinical outcomes were evaluated at the level of the Bone-Implant-Prosthetic-System (BIPS®) rather than at the individual implant or patient level.

Primary Outcomes

- Survival of the BIPS®
- Successful BIPS® (no corrective intervention required)
- Surviving BIPS® requiring corrective intervention
- Failed BIPS®

Success was defined as:

- Absence of vertical implant mobility
- Absence of pain and suppuration
- Functional prosthetic stability
- No requirement for surgical or prosthetic correction at the endpoint of the study

Failure was defined as:

- Removal of the BIPS®. Implants that were removed without any attempt at corrective intervention were classified as failures.

Lateral prosthetic mobility was not considered implant failure and was managed through occlusal or prosthetic correction and in some cases by adding more implants to the BIPS®.
BIPS® requiring corrective intervention but remaining functional were classified as surviving but not successful.

Secondary Variables

- Patient-reported pain
- Mobility of the bridge
- Need for a corrective intervention according to the 8th IF® Consensus Document

Demographic and clinical variables recorded included age, sex, smoking status, systemic conditions, and follow-up duration.

Follow-Up

Patients were recalled periodically for clinical evaluation. Follow-up ranged from 3 months to 13 years. Clinical examinations included assessment of prosthetic stability and biological conditions.
Patients unavailable for in-person evaluation were contacted by telephone when possible. Individuals without clinical or telephone follow-up were classified as lost to follow-up but retained in survival analyses.

Statistical Analysis

Descriptive statistics were used to summarize demographic, clinical, and outcome variables. Continuous variables are presented as means and ranges, while categorical variables are reported as frequencies and percentages. Analyses were conducted using SPSS version 21.

Results

A total of 915 patients were treated, of whom 508 (55.5%) were male and 407 (44.5%) female, with a mean age of 56 years (range: 23 to 84 years). Smoking was reported in 55% of the patients. Implants in both jaws were placed in the majority of patients (N=765, 83.60%), while 100 (10.92%) were treated in the maxilla only and 50 (5.46%) in the mandible only.

Parameter	Value
Total patients	915
Male	508 (55.5%)
Female	407 (44.5%)
Mean age, years (range)	56 (23 to 84)
Smokers	55%
Patients treated in both jaws	765 (83.6%)
Patients treated in the upper jaw only	100 (10.92%)
Patients treated in the lower jaw only	50 (5.46%)

***Table 1**: Demographic characteristics and treatment distribution of the study population*

During the study period (2011 to 2023), 1,680 full-mouth or full-jaw rehabilitations were completed, involving placement of 17,080 implants. For rehabilitation, 13,228 teeth were also extracted.

Parameter	Value
Study period	2011 to 2023
Types of reconstruction	Full-mouth / full-jaw (upper or lower)
Total BIPS® reconstructions	1,680
Total implants placed	17,080
Total teeth extracted	13,228
Mean number of teeth extracted per jaw	8.06
Timing of extractions	Immediately prior to implant placement

***Table 2**: Characteristics of the study cohort and surgical procedures (2011 to 2023)*

Across the cohort, 13,228 teeth were extracted immediately prior to implant placement, including 5,972 maxillary and 7,256 mandibular teeth, corresponding to mean extraction rates of 6.90 teeth per upper jaw and 7.38 teeth per lower jaw.

A total of 17,080 implants were placed, comprising 10,095 implants in the maxilla and 6,985 in the mandible, with mean placement densities of 11.67 implants per upper jaw and 8.57 implants per lower jaw.

Year of First Treat-ment	Total Jaws Treated	Patients with Both Jaws	Upper Jaw Only	Lower Jaw Only	Teeth Extracted (Total)	Upper Jaw	Lower Jaw	Implants Placed (Total)	Upper Jaw	Lower Jaw
2011	3	0	1	2	48	24	24	28	12	16
2012	18	6	4	2	180	71	109	186	123	63
2013	25	10	3	2	399	187	212	242	149	93
2014	24	8	4	4	239	117	122	221	131	90
2015	38	13	7	5	394	193	201	406	219	187
2016	27	12	1	2	296	130	166	260	152	108
2017	73	30	11	2	613	300	313	722	449	273
2018	210	91	20	8	1,843	869	974	2,089	1,251	838
2019	253	117	15	4	1,278	648	630	2,554	1,519	1,035
2020	214	100	9	5	1,811	770	1,041	2,116	1,249	867
2021	299	144	6	5	2,030	837	1,193	3,138	1,842	1,296
2022	263	123	10	7	2,246	1,028	1,218	2,679	1,557	1,122
2023	233	111	9	2	1,851	798	1,053	2,439	1,442	997
Total	**1,680**	**765**	**100**	**50**	**13,228**	**5,972** (6.90 / jaw)	**7,256** (7.38 / jaw)	**17,080**	**10,095** (11.67 / jaw)	**6,985** (8.57 / jaw)

***Table 3**: Annual distribution of treated jaws, tooth extractions, and implant placement (2011 to 2023)*

A total of 1,680 full-arch reconstructions were performed using different prosthetic materials over the study period. Metal-composite restorations represented the predominant reconstruction type (1,068 cases; 63.6%), followed by full-zirconia restorations (400 cases; 23.8%), which were increasingly used from 2017 onward. Earlier treatment phases were characterized by the use of metal-acrylic (79 cases; 4.7%) and metal-ceramic prostheses (92 cases; 5.5%), primarily between 2011 and 2017 and 2011 and 2015, respectively, while PMMA restorations were used temporarily in a limited number of cases (41 cases; 2.4%) during 2020 to 2021. Overall, material selection demonstrated a temporal shift toward composite and zirconia-based reconstructions in later treatment years.

Bridge Material	Number of Reconstructions	Percentage (%)	Period Used
Metal-acryl	79	4.7	2011 to 2017
PMMA	41	2.4	2020 to 2021
Metal-ceramic	92	5.5	2011 to 2015
Metal-composite	1,068	63.6	2017 to 2023
Full zirconium	400	23.8	2017 onward
Total	1,680	100	—

***Table 4**: Distribution of prosthetic bridge materials used in full-jaw reconstructions (N=1,680)*

Follow-up data were available for 696 patients (74.0%). Of these, 412 patients underwent clinical examination, including radiographic assessment, while 284 were evaluated via structured telephone interviews. Eight patients (0.86%) were reported deceased during the observation period. A total of 211 patients (23.06%) were classified as lost to follow-up at the study endpoint.

Follow-Up Category	Number of Patients	Percentage (%)
Clinical examination with radiographs	412	—
Telephone interview only	284	—
	696	74.0% of all patients
Deceased patients (of which we know)	8	0.86%
Lost to follow-up (at the end-point of study)	211	23.06%

***Table 5**: Follow-up status of the study population at endpoint (September 2022 to December 2023)*

Primary success without the need for intervention was achieved in 88.1% (N=1,480) of reconstructions. An additional 6.5% (N=109) reached functional stability following prosthetic or surgical corrective measures, resulting in an overall success rate of 94.6% (N=1,589) at the study endpoint.

A total of 4.3% (N=72) of BIPS® required corrective intervention during follow-up, while true BIPS® removal without corrective intervention (=failure) occurred in only 1.13% (N=19) of cases.

Outcome Category	N	Percentage (%)
Clinical examination with radiographs	412	—
Telephone interview only	284	—
	696	74.0% of all patients
Deceased patients (of which we know)	8	0.86%
Lost to follow-up (at the end-point of study)	211	23.06%

***Table 6**: Clinical outcomes at the Bone-Implant-Prosthetic-System (BIPS®) level*

Discussion

This prospective, practice-based cohort study evaluated long-term outcomes of cortical and basal implant-supported full-jaw rehabilitations at the Bone-Implant-Prosthetic-System (BIPS®) level. The principal finding was a high rate of functional stability, with 88.1% primary success and an overall success rate of 94.6% after corrective interventions. True system failure was rare (1.13%); however, 4.3% of BIPS® did not meet predefined success criteria at the endpoint or last control, predominantly due to manageable prosthetic factors or slight implant mobility.

These findings should be interpreted in the broader context of implant outcome reporting. Conventional osseointegrated implants demonstrate high survival rates in systematic reviews, often exceeding 90 to 96% at five to ten years[2,3].

However, survival alone does not equate to biological health or prosthetic stability. In a university-based retrospective cohort study, Lin (2016) reported that only 22.36% of implants were classified as healthy after a mean follow-up of 6.25 years, despite low implant loss (4.55%), with periimplant mucositis affecting 61.64% and periimplantitis up to 41.8% of the implants[23]. These data underscore the distinction between survival and true health, and support the rationale for evaluating outcomes at a functional system level rather than relying solely on implant presence.

The current study differs from many conventional cohort studies by consistently applying cortical anchorage and immediate functional loading in every single case, without any bone augmentation. Cortical engagement has historically been described as providing high primary stability even in atrophic jaws[24]. In the present cohort study, prosthetic stability was prioritized through cross-arch rigid splinting as well as occlusal and masticatory control, which may have contributed to the low rate of structural failure.

A defining methodological characteristic of this study is practice-based, consecutive inclusion design with strict adherence to the intention-to-treat principle (ITT principle). Practice-based research enhances external validity by reflecting routine clinical conditions and heterogeneous patient populations. Loss to follow-up was 22.61% over a mean observation period of 6.8 ± 3.9 years (maximum 12.8 years).

Long-term dental observational studies commonly report attrition rates between 20 to 40% over six to twelve years, particularly in non-university settings where patient mobility and compliance vary. Large practice-based research network (PBRN) studies demonstrate retention rates of 70 to 90% in short- to mid-term follow-up, with attrition increasing over time. Implant-specific long-term cohort studies often do not fully quantify drop-out, but meta analyses suggest attrition rates of 15 to 30% over ten years. Within this context, the observed 22.61% loss to follow-up falls within the expected range for long-term observational implant research. Transparent reporting of follow-up status is essential, particularly in light of evidence that sponsorship influences reported implant failure rates[25].

Osseofixated implants facilitate tooth extraction and implant placement within a single clinical visit, whereas immediate functional loading is achieved within 72 hours of treatment onset. This protocol has the potential to reduce treatment duration and clinical chair time compared with staged rehabilitation approaches[26]. Although patient-reported outcomes were not directly assessed in the present study, fixed implant rehabilitation has consistently been associated with improvements in oral health-related quality of life, particularly through restoration of masticatory efficiency, comfort, and social confidence[27]. The long-term functional stability observed in this cohort study is clinically relevant and may lead to patient-centered benefits similar to those reported in previous implant rehabilitation studies. Furthermore, Corticobasal® implants have demonstrated the capacity to restore durable function in atrophic jaws, as evidenced by successful outcomes in high smile-line cases and in patients who have experienced failures following All-on-4 treatment[28].

The predominance of prosthetic rather than biological complications may be partly explained by implant designs that emphasize cortical anchorage and reduce crestal stress transmission, combined with rigid cross-arch prosthetic stabilization.

In the present investigation, substantial tooth extractions were routinely conducted prior to full-arch rehabilitation, demonstrating the significant dental damage commonly observed in standard clinical practice.

As a result, the main goal of treatment planning was to ensure that full-arch reconstruction remained stable even when loaded immediately. The large number of extractions demonstrates the usefulness of this treatment method in difficult clinical situations where the teeth are not in good condition. It also shows that the average patient does not really adhere to their "own and natural teeth", as long as a realistic alternative is available.

A well-comparable study reported on bridges on cortical and basal implants, resulting in a 100% success rate in replacing 1,165 extracted teeth through 1,445 implants over 26 months. All patients were interviewed 12 to 24 months post-treatment, and they expressed a willingness to undergo the same treatment again, transitioning from a compromised tooth-based dentition to an implant-based bridge on the Strategic Implant®[18]. This result conflicts with the guidelines of various dental chambers, which demand of their members that "teeth are going to be saved" whatever the cost. In addition, our present study shows that this aim is not in the interest of the average patient, who seeks a smooth and stable masticatory function, an acceptable aesthetic outcome, and an end to endless repairs on "natural teeth".

This study has limitations. The absence of a parallel control group treated with conventional osseointegrated implants precludes direct comparative effectiveness conclusions. Such a study could not be carried out in the same center, as this would create legal complications for the clinic, because the treatment providers are obliged to openly admit to the patients in the osseointegration group that bone augmentations are not necessary today and that the treatment in the other group will be finished within three days. Under these circumstances, the control group would be of course immediately empty. Additionally, although follow-up duration was substantial, longer-term (>15-year) outcomes remain to be evaluated.

Within these limitations, the present prospective practice-based cohort study demonstrates high functional stability at the BIPS® level, low true system failure, and manageable complication patterns predominantly involving prosthetics. These findings support the relevance of system-level outcome assessment and highlight the importance of

biomechanical and prosthetic protocol in long-term full-arch implant rehabilitation.

Conclusion

Within the limitations of this prospective practice-based cohort study, immediately loaded Corticobasal® implant-supported full-arch rehabilitations exhibited high long-term functional stability, achieving an overall success rate of 94.6% and a minimal rate of true system failure at 1.13%. The majority of complications encountered were prosthetic in nature and were typically manageable without compromising functionality. These findings underscore the clinical viability of system-level rehabilitation utilizing cortical anchorage and immediate functional loading in standard clinical settings. Periimplantitis was not observed on any of the implants throughout the study. Additional comparative and long-term studies are necessary to substantiate these outcomes.

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Conflict of Interest

None. All treatment providers (authors) have chosen the "Method of Osseofixation" because they were fully convinced from the beginning of the study, based on their knowledge and experience, that this is the better method (compared to the "Method of Osseointegration"). None of the patients ever requested a treatment that included healing times, periimplantitis (as a severe risk), bone augmentation or removable bridges / dentures. All patients requested a sufficient amount of fixed teeth (e.g. 6-6 in both jaws). This result would not have been possible for an estimated 40% of the cases even with bone augmentation, if the older method of oral implantology („Osseointegration") had been used.

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ABOUT US

The Foundation of Knowledge

Since 2006, the International Implant Foundation (IF®) in Munich, Germany, has been at the forefront of implantology, advancing the field through innovative research and education. Our mission is to provide world-class implantology training for dentists, to support research and continuous exchange of knowledge & experience between professionals, and to inform the general public about the possibilities of modern oral implantology

16 Advantages of Osseofixation

Patients will hode you as their treatment provider, because you offer these advantages to them:

1 | Saves costs by 30-40%

2 | Reduces treatment time by 98%

3 | Efficient workflow saves chair-time

4 | Immediate functional loading

5 | Low complication rate

6 | Simple straight forward treatment

7 | Immediate implant placement

8 | Preserves bone elasticity

9 | Aesthetic solutions for all patients

10 | Uninterrupted intra-bony perfusion

11 | Easy long-term maintenance

12 | No peri-implantitis

13 | No patient selection

14 | Put more implants

15 | Start treatment immediately

16 | Cost-effective implants

AIOW CURRICULUM

Our All-in-One-Week Curriculum is an intense program designed for dentists to master **tooth-free dentistry.**

This course provides a solid foundation for future learning and patient treatments. With hands-on training and immediate application of skills, you'll be ready to safely implement the latest implantology techniques. Enroll in our advanced dental implants course today.

Requirements

A valid dental degree is required to enroll in our Corticobasal® implantology training program.

Who Should Attend

- Dentists and oral/maxillofacial surgeons interested in immediate functional loading
- Prosthetic specialists

Features

- Instructions from experienced implantologists
- Learn how to work without bone augmentation
- Avoid peri-implantitis simply by choosing the right implant
- Immediate implant placement
- How to solve cases at all stages of atrophy

Course Duration

- A full & intense 7-day training program for modern implantology and directly associated subjects.
- Become a certified implantologist in just one week.

Conventional Implantology

1 Inspection Diagnostic procedures Treatment plan

2a **Surgery 1**
Tooth removal

2b **Surgery 2**
Bone augmentation/sinus-lifting
(necessary in up to 80% of the cases)

2c **Surgery 3**
Implantplacement
(adequate bone healing provided)

2d **Surgery 4**
Placement of gingiva former

2e Impression taking

3 Trying of the bridge frame
(5-10 days after impression taking)

4 Delivery of bridge (***4-24 months*** after implant placement)

Total

Treatment duration: 4 - 24 Months
Number of appointments: 7 - 12

Strategic Implant®

Inspection
Diagnostic procedures
Treatment plan
1 *

Removal of teeth, Implant placement, Impression & Bite taking
2

**Step 1 and 2 may be done in the same (first) appointment.*

Trying of a sample bridge and aesthetic & functional corrections (if required) ***0 - 1 days*** after implant placement
3

Delivery of bridge (***1 - 3 days*** after implant placement)
4

Control of occlusion and mastication
5

Total

Treatment duration: 2 - 4 Days
Number of appointments: 4 - 5

AIOW TEACHERS

Prof. Dr. Stefan Ihde

Surgical & Prosthetic Specialist and 1st Class IF® Teacher

Prof. Dr. Vitomir Konstantinović

Professor of Maxillofacial Surgery and Implantology, Director of the Clinic for Maxillofacial Surgery, 1st Class IF® Teacher and Member of the IF® Board

7

Prof. Dr. Olga Sipić

Prosthetic Specialist - Implantologist and 1st Class IF® Teacher

Prof. Dr. Antonina Ihde

Prosthetic Specialist, 1st Class IF® Teacher, and Head of Dental Implant Faculty.

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Prof. Dr. Yan Vares

Craniomaxillofacial surgion, Head of Departement, Oral Implantology, 1st Class IF® Teacher

Dr. Fodor Romulus Calin

Surgical and prosthetic specialist, 1st Class IF® Teacher

SUCCESS STORIES

And Impressions from the course

I got to know that this way of implantology is pretty good, I got so excited about it, that I quit my job at a hosital. And I took over a clinic which works only with these implants. Since then I dont do anything else!

DR. IONUTS UNGUREAN

It changed my world, because with the Strategic Implant® everything is permitted, anything is possible, you improve oral health of the patient in only 24 hours, and the really important part for me you don't have peri-implantitis. Prof. Ihde forever!

DR. MIGUEL

I am very lucky to have learned this course. Thank you Dr Ihde for your generosity and your modesty. Thank you all to the team!

DR. HABIB RITHA

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